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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,663	11/24/2003	Shinichi Suzuki	03716/HG	6208

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EXAMINER

SHAH, MANISH S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,663

Applicant(s)

SUZUKI ET AL.

Examiner

Manish S. Shah

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: In line 2, it suppose to be micro-particles are silica. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichinose et al. (# EP 1016542 A1) in view of Cheng et al. (# US 6239193).

Ichinose et al. discloses a method for printing an ink-jet image, comprising the steps of: ejecting droplets of an ink on an ink-jet recording media, wherein the ink contains a water-soluble dye, water and an organic solvent ([0075], [0079]); and the ink-jet recording media contains a support (base material) having thereon at least one ink absorbing layer (lower layer) and the outermost layer (upper layer) of the ink-jet recording media (see Abstract) contains a porous structure containing a cationic polymer and inorganic pigment micro-particles ([0048], [0053]-[0055]).

- The inorganic pigment micro-particles are silica ([0053]-[0055]).

- The weight ratio of the cationic polymer to the inorganic pigment micro-particles is 1:5 to 1:50 (see Examples).

- The support is non-water absorptive ([0024]-[0027]).

Ichinose discloses all the limitation of the claimed invention except that the ink contains nonionic resinous micro-particles, wherein an average particle diameter of the nonionic resinous micro-particles is 10 to 200 nm, and a minimum film forming temperature of the nonionic resinous micro-particles or a glass transition temperature the nonionic resinous micro-particles is not more than 60 C. (2) The nonionic resinous micro-particles is contained in an amount of 0.2 to 10 weight % based on the total weight of the ink. (3) The nonionic resinous micro-particles are prepared by forcibly dispersing a nonionic dispersing agent and a monomer or the nonionic resinous micro-particles are prepared by self-dispersing a monomer having a hydrophilic group or a hydrophilic portion in the molecule.

Cheng et al. teaches that to get the water fast, light fast and bleed free printed image, ink composition includes nonionic resinous micro-particles (see Abstract), wherein an average particle diameter of the nonionic resinous micro-particles is 10 to 200 nm, and a minimum film forming temperature of the nonionic resinous micro-particles or a glass transition temperature the nonionic resinous micro-particles is not more than 60 °C. (2) The nonionic resinous micro-particles is contained in an amount of 0.2 to 10 weight % based on the total weight of the ink (column: 12, line: 28-61; column: 9, line: 1-20). (3) The nonionic resinous micro-particles are prepared by forcibly dispersing a nonionic dispersing agent and a monomer or the nonionic resinous micro-

particles are prepared by self-dispersing a monomer having a hydrophilic group or a hydrophilic portion in the molecule (column: 3, line: 60-67; column: 4, line: 1-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Ichinose et al. by the aforementioned teaching of Cheng et al. in order to have the water fast, light fast and bleed free printed image.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(1) Asano et al. (# US 6511736) discloses a method for printing an ink-jet image, comprising the steps of: ejecting droplets of an ink on an ink-jet recording media, wherein the ink contains a water-soluble dye (column: 7, line: 10-17), water; and the ink-jet recording media contains a support (base material) having thereon at least one ink absorbing layer (lower layer) and the outermost layer (upper layer) of the ink-jet recording media (see Abstract) contains a porous structure containing a cationic polymer and inorganic pigment micro-particles (column: 11, line: 10-40).


- The inorganic pigment micro-particles are silica (column: 11, line: 10-15).
- The weight ratio of the cationic polymer to the inorganic pigment micro-particles is 1:5 to 1:50 (see Examples).
- The support is non-water absorptive (column: 4, line: 55-65).

(2) Koike et al. (# US 5764261) discloses an ink for ink jet recording including a dispersed dye (column: 5, line: 40-55), water soluble solvent, water (column: 6, line: 35-65) and nonionic compound (see Abstract; column: 6, line: 7-15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

12/8/05